

DOCKET NO.: MSFT-0681(183208.1)
Application No.: 09/322,457
Office Action Dated: July 8, 2003

PATENT
REPLY FILED UNDER EXPEDITED
PROCEDURE PURSUANT TO
37 CFR § 1.116

REMARKS

Claims 1 to 16 are pending in the present application. Claims 1 and 7 are the independent claims. In the Office Action, dated July 8, 2003, claims 1-16 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,185,613 (Lawson et al.). The outstanding rejection to the claims is respectfully traversed.

Summary of the Invention

The invention provides a tracking system for a distributed computing environment, such as a peer to peer computing environment, which provides for watching one or more properties of a server resource by a client resource. A property of a resource corresponds to “data related to the resource whose value can be set by that resource during execution of a function of the resource.” That function can be invoked by another software component. The function may be specifically provided to set the value of the property (e.g., a set property function) or may set the value of the property as a side effect.

In one embodiment, a property watching component of the resource tracking system allows client resources to register their interest in receiving notifications when a property of a server resource is set. The client resources also specify the behavior to be performed when the property is set. The property watching component provides a synchronous mechanism for notifying client resources when the property is set. This synchronous mechanism ensures that client resources who are registered to watch a property are notified of the setting of the property before any client resources are notified of a subsequent setting of the property. The property watching component thus provides a mechanism for synchronizing processing among multiple client resources.

Lawson et al.

Lawson et al., on the other hand, relates to an event notification system. Lawson et al. teaches an event notification system that has a two tiered architecture: a local tier with a local registry for event registration and a global tier with a global registry for event registration.

In one aspect, Lawson et al. attempts to address problems existing in various broadcast eventing systems. One such problem identified in the background section is that prior art event notification systems lack a mechanism for an event producer who is also a user to trigger a customized event. Thus, Lawson et al. disclosed that it would be desirable to allow event producers, including event producers that are also users, to trigger custom events that can be globalized to all event consumers in the network. See, e.g., Col. 4, lines 12-19.

To this end, Lawson et al. discloses a system that provides a mechanism for allowing a user to create a custom event type. A custom event type is created by placing appropriate entries in the global and local event registries. In addition, an associated process may have to be initiated which receives the custom event and takes appropriate action. For example, if a user wished to initiate automatic running of a virus scan program on multiple user computers in a network, the user would create a launch program event type and register the event type in the global registry. Each of the user computers would then register for the launch program event type using the procedure previously described. One user could then initiate or trigger the run program event. The global event notification process previously described would then notify each of the user computers that the event had occurred. A process running on each of the user computers would then receive the notification and in response run a virus scan program. See, e.g., Col. 6, lines 7-24.

Lawson et al. also discloses the use of a free-form syntax for defining event registration criteria. While registration may be set out as a set of defined rules which restrict events by name or event type, class, attribute, location, etc., Lawson et al. also purportedly facilitates the free-form definition of the registration criteria. In such a method, an event producer or event consumer generates the free-form syntax of the registration criteria and uses such a form when registering with the global event registry. The global event registry thereafter stores the free-form syntax for subsequent comparison of the characteristics of a received event in making a determination if the received event and its associated characteristics match with the free-form syntax specified in the registration definition. When the free-form syntax in the global event registry matches the characteristics of the event, then the broker or server transfers the event to the corresponding event producer or consumer specified in the global event registry. For example, since the present embodiment accepts a registration process using free-form syntax, one example of a free-form implementation may evaluate the characteristics of an event "X" and when the event matches a defined set of criteria such as "X has blue hair, X occurred at 1:47 a.m., etc. See, e.g., Col. 10, lines 33-56

As explained below, however, nowhere does Lawson et al. teach or suggest a property notification system.

Outstanding Rejection under 35 U.S.C. § 102(e)

In Applicants' remarks filed April 25, 2003, Applicants set forth that applying Lawson et al. to the present invention was inapposite because Lawson et al. relates to *eventing* notification, not *property* notification (e.g., beginning on page 56, and elsewhere),

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and that in fact, Applicants' disclosure includes a whole different section relating to eventing in the written description beginning on page 61.

In paragraph 18 of the July 8, 2003 Office Action, the Examiner refers to comments made in the first Office Action (dated January 3, 2003) as support for the idea that Lawson et al. relates to property notification. Specifically, the Examiner refers to the statement "*event notification in a distributed computing environment, where a property can be set as an event, Col. 1, lines 21-25*". However, Applicants respectfully submit Col. 1, lines 21-25 stand for no such thing, i.e., in fact, the word "property" is not used a single time in the disclosure of Lawson et al. Lines 21-25 of Col. 1 of Lawson et al. refer merely to field of technology of Lawson et al., namely, "event notification and distribution between computer systems, and more specifically, global event notification in a distributed computing environment, such as a computer network."

Applicants respectfully submit that the idea that "Lawson's customized notification is completely capable of being set to create a notification for the event where 'the property is set,'" as generally alleged in paragraph 18 of the Office Action, is without support anywhere in Lawson et al. Applicants respectfully submit that the leap from "customized event" to "property notification" is nowhere taught or suggested in Lawson et al., and illustrate this point in detail below.

Lawson et al. discloses the "customization" of event types at Col. 10, lines 33-56. In such a method,

(1) an event consumer (or event producer) generates free-form syntax of registration criteria and uses such a form when registering with the global event registry,

(2) the global event registry thereafter stores the free-form syntax for subsequent comparison of the characteristics of a received event in making a determination if the received event and its associated characteristics match with the free-form syntax specified in the registration definition,

(3) when the free-form syntax in the global event registry matches the characteristics of the event, then the broker or server transfers the event to the corresponding event producer or consumer specified in the global event registry.

The example given in Lawson et al. is that a free-form implementation may evaluate the characteristics of an event "X" and when the event matches a defined set of criteria such as "X has blue hair, X occurred at 1:47 a.m., etc."

Nowhere do the above-described examples or procedure teach or suggest registering an interest in watching a property of a software component. The procedure and examples disclosed in Lawson et al. fails to teach or suggest the property notification system of the present invention for at least two reasons:

(A) With the present invention, in a distributed computing system, a client registers to watch a property of a software component, and then receives a notification when the property is set. With Lawson et al., the client (event consumer) generates free-form syntax of event registration criteria, and then compares the characteristics of a received event in determining whether the received event and its associated characteristics match with the free-form syntax. When a match is made, the event consumer is notified of the match. It is Applicants' understanding, therefore, that Lawson et al.'s "customized eventing" merely discloses analyzing events as they are received to determine if they match a particular client's defined eventing criteria.

(B) Secondly, even in the exemplary “customized eventing” case of “X has blue hair,” disclosed by Lawson et al., Lawson et al. merely discloses registering an interest in a characteristic of an event, not a property of a software component. X is an event. “X has blue hair” describes (via free form syntax) a characteristic (blue hair) of an event (X). Merely registering an interest in a characteristic of an event nowhere teaches or suggests registering an interest in a property of a software component.

The outstanding rejection to claims 1-16 under 35 U.S.C. § 102(e) is respectfully traversed.

As alluded to above, application of Lawson et al. to the present claims is inapposite because Lawson et al. relates to an eventing system, not a property notification system. For the reasons set forth above, nowhere does Lawson et al. teach or suggest a system in which a client can register an interest in watching a property of a software component.

As described above, since Lawson et al. relates to an eventing system and to customizing the analysis of events, and not to registering interests in one or more properties of an object, Lawson et al. cannot be said to disclose or suggest at least “registering, by a first software component, an interest in watching a property of a second software component and receiving a notification when the property is set” (claim 1) or “for each of a plurality of software components, registering an interest in a property and setting the property a plurality of times and for each setting of the property, notifying each software component of the plurality of software components that the property has been set prior to notifying any software component of the plurality of software components of any later setting of the property” (claim 7).

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Applicants respectfully submit no prior art system of record, taken alone or in combination, teaches at least these features of the present invention. Claims 2-6, 9, 11, 13 and 15 depend from claim 1 and are believed allowable for the same reasons. Claims 8, 10, 12, 14 and 16 depend from claim 7 and are believed allowable for the same reasons. Withdrawal of the rejection to claims 1-16 under 35 U.S.C. § 102(e) is respectfully requested.

CONCLUSION

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Office Action, and submit that Claims 1-16 of the application are in condition for allowance. Favorable consideration and passage to issue of the application at the Examiner's earliest convenience is earnestly solicited.

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